WHAT IS CLAIMED IS:

1. An optical device comprising:

a photodetector circuit receiving first optical signals and outputting first serial electrical signals in response thereto;

a serial-to-parallel conversion circuit coupled to said photodetector and receiving said first serial electrical signals, said serial-to-parallel conversion circuit outputting said first electrical signals in parallel;

a forward error correction encoder circuit coupled to said serial-to-parallel conversion circuit and being configured to receive said first electrical signals in parallel, said encoder circuit encoding said first electrical signals in accordance with a code to generate parallel second electrical signals;

a parallel-to-serial conversion circuit coupled to said forward error correction encoder circuit and receiving said parallel second electrical signals, said parallel-to-serial conversion circuit outputting said second electrical signals in a serial fashion; and

an optical emitter coupled to said parallel-to-serial conversion circuit and receiving said serial second electrical signals, said optical emitter outputting second optical signals in accordance with said second electrical signals.

2. An optical device in accordance with claim 1, wherein said first optical signals are at a first wavelength and said second optical signals are at a second wavelength.

3. An optical device in accordance with claim 1, further comprising a clock and data recovery circuit coupled between said photodetector and said serial-to-parallel conversion circuit.

4. An optical device in accordance with claim 1, wherein said code is a Reed-Solomon code.

5. An optical device in accordance with claim 1, wherein said forward error correction encoder circuit encodes said first electrical signals in a frequency domain.

6. An optical device comprising:

a photodetector circuit receiving first optical signals and outputting first electrical signals in response thereto;

a serial-to-parallel conversion circuit coupled to said photodetector and receiving said first electrical signals, said serial-to-parallel conversion circuit outputting said first electrical signals in parallel;

a forward error correction decoder circuit coupled to said serial-to-parallel conversion circuit and being configured to receive said first electrical signals in parallel, said forward error correction decoder circuit decoding said first encoded electrical signals in accordance with a code to generate parallel second electrical signals;

a parallel-to-serial conversion circuit coupled to said forward error correction decoder circuit and receiving said second electrical signals, said parallel-to-serial conversion circuit outputting said second electrical signals in a serial fashion; and

an optical emitter coupled to said parallel-to-serial conversion circuit and receiving said serial second electrical signals, said optical emitter outputting second optical signals in accordance with said second electrical signals.

7. An optical device in accordance with claim 6, wherein said first optical signals are at a first wavelength and said second optical signals are at a second wavelength.

8. An optical device in accordance with claim 6, further comprising a clock and data recovery circuit coupled between said photodetector circuit and said serial-to-parallel conversion circuit.

9. An optical device in accordance with claim 6, wherein said code is a Reed-Solomon code.

10. An optical device in accordance with claim 6, wherein said forward error correction decoder circuit decodes said first electrical signals in a frequency domain.

11. An optical device comprising:

a first photodetector circuit receiving first optical signals and outputting first electrical signals in response thereto;

a first serial-to-parallel conversion circuit coupled to said first photodetector and receiving said first electrical signals, said first serial-to-parallel conversion circuit outputting said first electrical signals in parallel;

a forward error correction encoder circuit coupled to said first serial-to-parallel conversion circuit and being configured to receive said first electrical signals in parallel, said forward error correction encoder circuit encoding said first electrical signals in accordance with a code to generate parallel second electrical signals;

a first parallel-to-serial conversion circuit coupled to said forward error correction encoder circuit and receiving said parallel second electrical signals, said first parallel-to-serial conversion circuit outputting said second electrical signals in a serial manner;

a first optical emitter coupled to said parallel-to-serial conversion circuit and receiving said second electrical signals, said optical emitter configured to supply second

optical signals to an optical communication path in accordance with said second electrical signals;

a second photodetector circuit configured to be coupled to said optical communication path receiving said second optical signals and outputting third electrical signals in response thereto;

a second serial-to-parallel conversion circuit coupled to said second photodetector and receiving said third optical signals, said second serial-to-parallel conversion circuit outputting said third electrical signals in parallel;

a forward error correction decoder circuit coupled to said second serial-to-parallel conversion circuit and being configured to receive said third electrical signals in parallel, said forward error correction decoder circuit decoding said third electrical signals in accordance with said code to generate parallel fourth electrical signals;

a second parallel-to-serial conversion circuit coupled to said forward error correction decoder circuit and receiving said fourth electrical signals, said parallel-to-serial conversion circuit outputting said fourth electrical signals in a serial fashion; and

a second optical emitter coupled to said parallel-to-serial conversion circuit and receiving said serial fourth electrical signals, said second optical emitter outputting third optical signals in accordance with said serial fourth electrical signals.

12. An optical device in accordance with claim 11, wherein said first optical signals and said second optical signals are at different wavelengths.

13. An optical device in accordance with claim 11, wherein said second optical signals and said third optical signals are at different wavelengths.

14. An optical device in accordance with claim 11, further comprising:

a first clock and data recovery circuit coupled between said first photodetector circuit and said first serial-to-parallel conversion circuit; and

a second clock and data recovery circuit coupled between said second photodetector circuit and said second serial-to parallel conversion circuit.

15. An optical device in accordance with claim 11, wherein said code is a Reed-Solomon code.

16. An optical device in accordance with claim 11, wherein said forward error correction encoder circuit encodes said first electrical signals and said forward error correction decoder decodes said third electrical signals in a frequency domain.

17. An optical communication device comprising:

a plurality of encoder circuits each receiving respective electrical data signals and outputting encoded electrical signals in accordance with a Reed-Solomon code;

a plurality of optical emitters, each emitting light at a respective wavelength and each coupled to a respective one of said plurality of encoder circuits, each of said optical emitters outputting optical signals in accordance with said encoded electrical signals; and

an optical multiplexer coupled to each of said plurality of optical emitters, said optical multiplexer being configured to receive said optical signals from said plurality of optical emitters and supply said optical signals on an optical communication path.

18. An optical communication device, compirising:

an optical demultiplexer having an input configured to be coupled to an optical communication path, said optical communication path carrying a plurality of optical

channels, each at a respective wavelength, said optical demultiplexer further having a plurality of outputs, each supplying a respective one of said optical channels;

a plurality of photodetectors, each respectively coupled to one of said plurality of outputs of said optical demultiplexers, each of said plurality of photodetectors generating first electrical signals in response to said respective one of said plurality of optical channels; and

a plurality of forward error correction decoders, each respectively coupled to one of said plurality of photodetectors, each of said plurality of forward error correction decoders decoding said first electrical signals in accordance with a Reed-Solomon code to generate second electrical signals.

19. An optical communication device comprising:

a plurality of encoder circuits each receiving respective first electrical signals and outputting encoded second electrical signals in accordance with a Reed-Solomon code;

a plurality of optical emitters, each emitting a respective one of a plurality of optical channels, each of said optical channels being at a respective wavelength, and each of said plurality of optical emitters being coupled to a respective one of said plurality of encoder circuits, said optical emitters outputting said plurality of optical channels in accordance with said encoded electrical signals;

an optical multiplexer coupled to each of said plurality of optical emitters, said optical multiplexer being configured to receive said optical signals from said plurality of optical emitters and supply said optical signals to an optical communication path.

an optical demultiplexer having an input configured to be coupled to said optical communication path, said optical demultiplexer further having a plurality of outputs, each supplying a respective one of said optical channels;

a plurality of photodetectors, each respectively coupled to one of said plurality of outputs of said optical demultiplexers, each of said plurality of photodetectors generating third electrical signals in response to said respective one of said plurality of optical channels; and

a plurality of forward error correction decoders, each respectively coupled to one of said plurality of photodetectors, each of said plurality of forward error correction decoders decoding said third electrical signals in accordance with a Reed-Solomon code to generate fourth electrical signals.